

Regional Energy Cooperation and the Role of the United States: An Opinion from Japan

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ASIA'S ABILITY TO MAINTAIN STABLE AND SUSTAINABLE ECONOMIC GROWTH IS AN ESSENTIAL NATIONAL INTEREST for the United States. However, growing regional energy demand is now causing complicated energy-related challenges, which may affect sustainable growth and development going forward. Thus, it is vitally important for the new Trump administration to have a better understanding of these issues and to have a sound and effective energy policy for Asia.

Asia is emerging as the center of gravity for the world energy market. According to the BP Statistical Review of World Energy 2016, Asia's share of global primary energy consumption jumped from 14 percent to 42 percent between 1970 and 2015. As much of this energy consumption is centered on coal, Asia's share of global carbon dioxide emissions also increased rapidly from 15 percent to 48 percent during the same period. As a result of the region's continued economic growth, rising middle-class populations, urbanization, and motorization, these trends are likely to continue over the long-term. The "Asia/World Energy Outlook 2016" by the Institute of Energy Economics, Japan (IEEJ) forecasts that Asia's primary energy demand will increase another 57 percent by 2040, accounting for 60 percent of global energy demand growth.

With all of these changes underway, various energy-related problems are emerging as urgent challenges in the region. In particular, Asia faces four principal challenges: energy security, environmental protection, economic efficiency, and nuclear safety, which can be named as "3E plus S" challenges. On each of these, the United States can play an important role.

Asian Energy Security and the Role of the United States

The BP Statistical Review of World Energy 2016 notes that in 2015, Asia depended on net imports for 24 percent of its total primary energy supply and for as much as 74 percent of its oil supply. The percentage of gas imports now stands at 21 percent after a sharp increase in recent years. Many of Asia's oil and gas imports come from the Middle East, which remains plagued with complex and serious geopolitical problems. As Asian energy demand and imports expand further in the future, securing more stable energy supplies will become a key challenge for the region. Supply security involves maintaining safe transportation and sea lanes, preventing new risks such as cyber-attacks, as well as securing sufficient volume and stable prices. To meet these goals, Asia will need to diversify its energy supply and increase imports from sources including the United States—a growing player through unconventional shale exploitation—and suppliers such as Russia, Canada, and Africa. Asia will also need to promote energy conservation and greater use of non-fossil energy sources.

The United States can play a significant role in enhancing Asian energy security in several ways:

- First, expanding U.S. domestic energy production and the export of U.S. oil and liquefied natural gas (LNG) supplies would contribute to the stability of the world market and help Asians diversify their energy supply structure.
- The United States should also continue to play a pivotal role in maintaining the safe and stable transit of international seaborne energy flows, which are vital to global and Asian economies. U.S. engagement in the Middle East and Eurasia to enhance geopolitical stability will also continue to be a key element of energy security in Asia.
- Finally, the United States, together with Japan and other Organization for Economic Coop-

eration and Development and International Energy Association member countries, should help emerging Asian economies diversify and upgrade their energy supply structure and enhance energy resilience through assistance with advanced technology, infrastructure investment, and policy dialogue.

Asia's Environmental Problems and the Role of United States

The biggest environmental problem in Asia stems from the region's heavy dependence on coal. In 2015, coal accounted for a dominant 51 percent of primary energy consumption in Asia because large coal consumers such as China and India have satisfied their robust energy demand with domestically produced, abundant, and cheap coal.

The Paris Agreement came into effect on November 4, 2016, and the parties, including the United States, China, and India, are now required to reduce or cap their respective greenhouse gas emissions. Many existing targets are too close to business-as-usual levels instead of producing substantial reductions, but parties to the Paris Agreement will be required to revise their emissions reduction targets every five years. Thus, over time, Asian countries will have to reduce their dependence on coal and promote low-carbon energy.

Economically-rational renewable energy use, safer nuclear power plants, and thorough energy conservation hold the key to reducing emissions in Asia. The region must also explore alternative solutions such as promoting the use of cleaner fossil fuels such as natural gas; developing and expanding clean-coal technologies; and tackling carbon capture, utilization, and storage as long-term parts of the solution. Successful reductions in coal use and cleaner, more efficient energy systems will pay climate change dividends while also helping the region confront formidable conventional air pollution challenges.

Again, the United States can play a significant role. **First and foremost, the United States can help Asian countries promote energy efficiency and cleaner energy development. This can be done by supporting Asian countries' strategic efforts to increase the share of cleaner energy sources such as natural gas, nuclear power, and renewable energy.** Clearly, the key issue is to reduce Asia's heavy dependence on coal and create a more diversified and cleaner energy supply mix. **But it is also important for the United States to have a better understanding of the energy reality in Asia, namely the reality that coal is likely to remain a key component of Asia's energy mix for the foreseeable future.** In this context, wider use of clean-coal technology should be an important part of Asian energy policies. With better understanding of this reality, the United States can be an important research, development, and trade partner with Asian countries to promote cleaner coal use while supporting their efforts to reduce coal dependence.

Energy Market Efficiency and the Role of the United States

In many Asian countries, the energy sector is still heavily regulated, with state-run companies and governments exerting direct control over energy prices and providing subsidies to lower prices. Japan has deregulated electricity and gas markets ahead of other countries. Its recent deregulation initiatives to fully deregulate electricity and gas markets have attracted interest from other Asian countries including China, India, ASEAN members, and others involved in energy market reforms. These countries can learn important lessons from European, U.S., and Japanese market liberalization experiences as they work to develop more efficient energy systems. Given that energy security and environmental protection

have externalities and cannot be left to market forces alone, however, appropriate energy and environmental policies must also be implemented. Therefore, Asian countries will need to pursue the best mix of market principles and policy regulation.

The United States, as a country with vast experience in energy market reforms, can provide useful lessons to many Asian countries where energy market reforms are underway or being planned. While being mindful of the differences between the United States and various Asian countries on political, socioeconomic, and energy industry fundamentals, the United States can still provide important inputs on the path to successful energy market reforms. In addition, the United States can also play a significant role in promoting a well-functioning LNG market in Asia by selling substantial volumes of LNG to Asian partners, which would facilitate greater supply flexibility.

Challenges for Nuclear Safety in Asia and the Role of the United States

Nuclear energy is an important electricity source in Asia. Once operational, nuclear plants can efficiently and consistently generate large volumes of baseload electricity without direct greenhouse gas emissions. As the region continues to see robust growth in electricity demand while trying to wean itself from a heavy dependence on coal, nuclear energy use is likely to expand.

The Fukushima accident of 2011 had a great impact on Asian energy production. Japan has revised its energy policy, while the Republic of Korea and Taiwan have become more cautious or critical of nuclear energy use. Nuclear energy expansion depends on safety enhancements, successful efforts to build public acceptance, and regulatory structures that take lessons from past failures. This is particularly important with China, India, and ASEAN considering and implementing a large number of nuclear power plant construction plans. Safe and productive Asian nuclear sectors require enhanced regional and worldwide cooperation to promote safety measures based on lessons from Fukushima, to establish and operate best-practice nuclear regulation systems, and to enhance cooperative emergency response capacities in the region.

The United States is one of the most advanced users of nuclear power, and its policy and industry experiences could greatly assist Asian countries in securing and enhancing nuclear safety in Asia. International nuclear cooperation, in which both the United States and Japan could play an important role, should be promoted in Asia where nuclear power is expected to increase substantially. In other words, the United States can play a critical role in improving the nuclear “3S’s”—safety, security, and safeguards—in Asia. This is not just in the interest of Asian countries and citizens. Nuclear disasters can have far-reaching environmental, social, and economic impacts; many of which affect U.S. interests. By helping develop the next generation of nuclear reactors in Asia, the United States can create opportunities for its domestic nuclear companies and institutions while promoting safer and cleaner energy environments among its Asian partners.

Conclusion

As Asia grows more important in the world, its energy challenges and strategies will become key factors shaping the global landscape affecting stability and sustainability in the world. The United States, with its tremendous strengths as an energy policy leader and its industrial capabilities, can make a great contribution in helping Asian countries address their energy challenges, both for the benefit of its own national interest as well as for the global good. I hope Mr. Trump will consider the important opportunity the United States has to work together with Japan and other Asian countries on these issues.